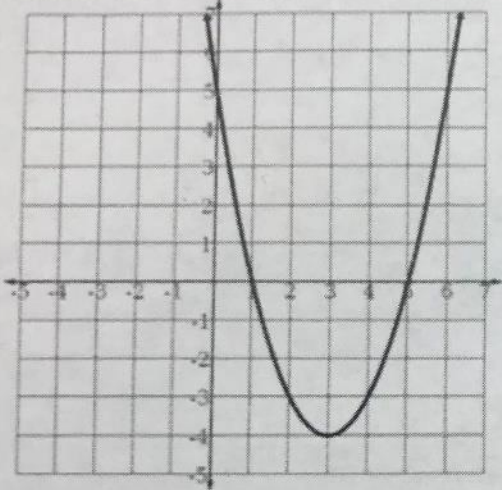


## Notes on Characteristics of Quadratics and Changing forms of Quadratics

Graph	Characteristics
	<p>Vertex: <math>(3, -4)</math></p> <p>Axis of Symmetry: <math>x = 3</math></p> <p>Zeros: <math>x = 1</math> or <math>(1, 0)</math>  <math>x = 5</math> or <math>(5, 0)</math></p> <p>y-intercept: <math>(0, 5)</math> or <math>y = 5</math></p>

Vertex form	Factored Form	Standard form
$(x - 3)^2 - 4$	$(x - 1)(x - 5)$	$x^2 - 6x + 5$
<p>Vertex: <math>(3, -4)</math></p> <p>Axis of Symmetry: <math>x = 3</math></p>	<p>Zeros: <math>x = 1</math> or <math>(1, 0)</math>  <math>x = 5</math> or <math>(5, 0)</math></p>	<p>y-intercept: <math>y = 5</math> or <math>(0, 5)</math></p>

### Calculator Procedure

"Find your a, b & c values from your standard form equation

"Click the **poly-solv** button (2<sup>nd</sup> cos) and then choose option # 1

"Enter your a, b & c values from your standard form equation

"Find zeros \* at x1 and x2

"Enter, Solve, Enter, Enter, NO, NO, **YES**. Keep scrolling down to the bottom to see your **a**, **h**, and **k** values

"Substitute into  $f(x) = a(x - h)^2 + k$

Standard Form	Characteristics
$x^2 - 6x + 5$	Vertex: $(3, -4)$
Vertex form: $a(x - h)^2 + k$	Axis of Symmetry: $x = 3$
<u>1</u> $(x - \underline{3})^2 + \underline{-4}$	Zeros*: $x = 5$ or $(5, 0)$ $x = 1$ or $(1, 0)$
	y-intercept*: $(0, 5)$ or $y = 5$